

Strategies for Understanding and Addressing

Risk Tolerance

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Risk Tolerance

Overview

- Insights into Risk Tolerance
- 10 Influencing Factors
- Application in the work place
- Supporting tools, resources and strategies



Risk Tolerance

- Risk tolerance involves weighing a number of factors that influence a decision to either accept or reduce risk
- How these factors are perceived and weighed in the mind of the worker and the work group affects safety behavior



Risk Tolerance

Dave Fennell and the ExxonMobil Human Factors COE Task Force explored:

ExxonMobil



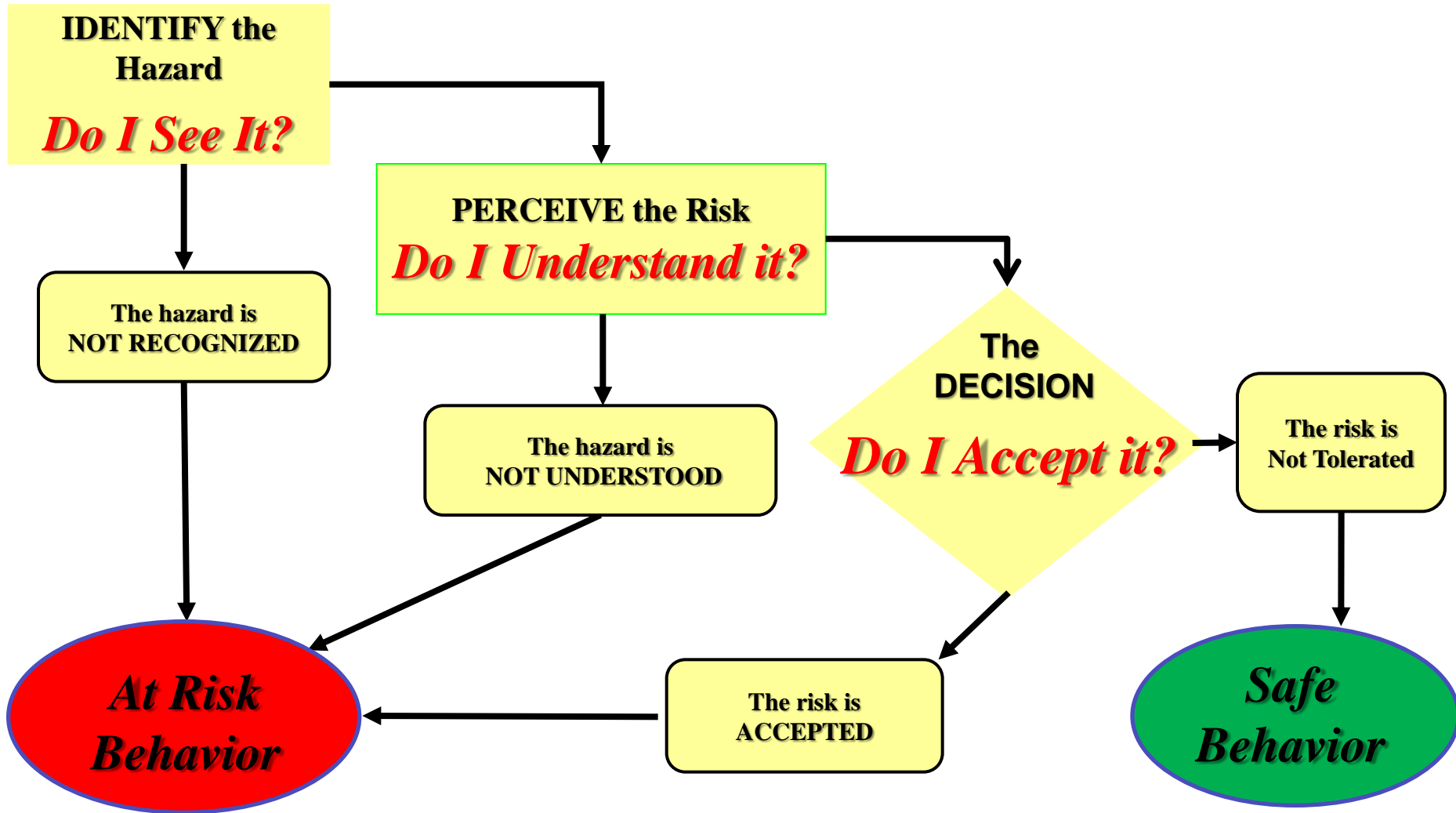
- Relationship between Hazard Recognition, Risk Perception and Risk Tolerance
- Factors that influence decisions to take chances
- Why people make the decisions they make
- How we can influence the choices others make



Risk Perception and Tolerance Model

The Cognitive Process

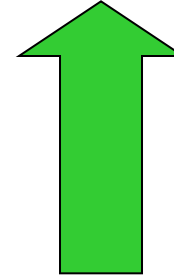
EXPOSURE



Risk Perception and Tolerance in the Workplace

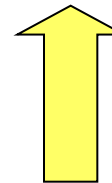
Hazard Identification

“Do I See it?”



Risk Perception

“Do I Understand it?”



Risk Tolerance

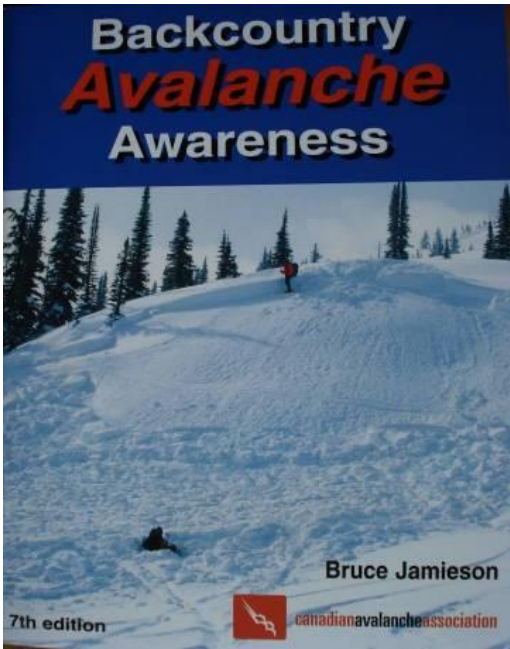
“Do I Accept or Reject it?”



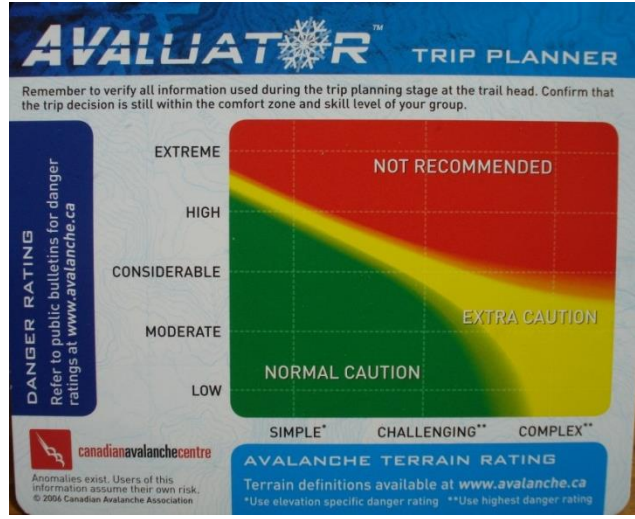
Risk Perception / Tolerance Model

Hazard Identification \neq Risk Tolerance





In the Classroom



In the 'Workplace'





- JSA often identifies the hazard
- Hazard is discounted or no mitigation

“BE ~~CAREFUL~~”



10 Factors That Influence Risk Tolerance

1. **Overestimating Capability/Experience** ↑
2. **Familiarity with the Task** ↑
3. **Seriousness of Outcome** ↓
4. **Voluntary Actions and Being in Control** ↑
5. **Personal Experience with an Outcome** ↓
6. **Cost of Non-Compliance** ↓
7. **Confidence in the Equipment** ↑
8. **Confidence in Protection and Rescue** ↑
9. **Potential Profit & Gain from Actions** ↑
10. **Role Models Accepting Risk** ↑

1) Overestimating Capability/Experience

“I can lift 75 kg in the gym ... I can lift this nitrogen bottle”

“I have driven in worse conditions than this and did just fine”



Strategies for Reducing Tolerance

- Reflect on your role as a mentor
- Acknowledge that despite your ability, the **exposure** is still there.
- Acknowledge that the capability or skill may be sufficient and then reinforce the way that it should be done.

2) Familiarity with the Task - Complacency



“He had done this task 500 times without hurting himself”



“We had stack about 200 of them when ...”



“You get used to it after a while”

Strategies for Reducing Tolerance

- ‘Situational Awareness’ – Every time like the first time ***‘Stop and Think’***
- ‘What could go wrong **this** time?’
- ‘How would I teach a new person to do this?’

3) Seriousness of the Outcome

‘Pinch Point’ ... what about ‘Crush’ or ‘Amputation’ point



“Sweet gas” ??

“Hot Water” ??

Strategies for Reducing Tolerance

- ***Stop and Think*** “How bad could it be? Really ...How bad could it be?”

4) Voluntary Actions and Being in Control

Key factor in off the job risk – **28 times** more likely to be hurt off the job



Imperial **ExxonMobil**

Before and during a task

- Stop**
 - What could go wrong?
 - How bad could it be?
- Think**
 - Do I clearly understand my task?
 - Has anything changed?
- Act**
 - Am I physically and mentally ready?
 - Do I have the right tools and equipment?
 - Make it safe.
 - Use right procedure.
 - Use right tools.
 - Reduce risks.

STOP & Think

Stop if it can't be done safely!

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Strategies for Reducing Tolerance

- Integrate **'Stop and Think'** into your personal activities



5) Personal Experience with an Outcome

If you have seen a serious outcome, you will be less tolerant of the risk

Challenge: As Incident Rates improve, fewer people will have had personal experience and leads to **Scepticism**



Strategies for Reducing Tolerance

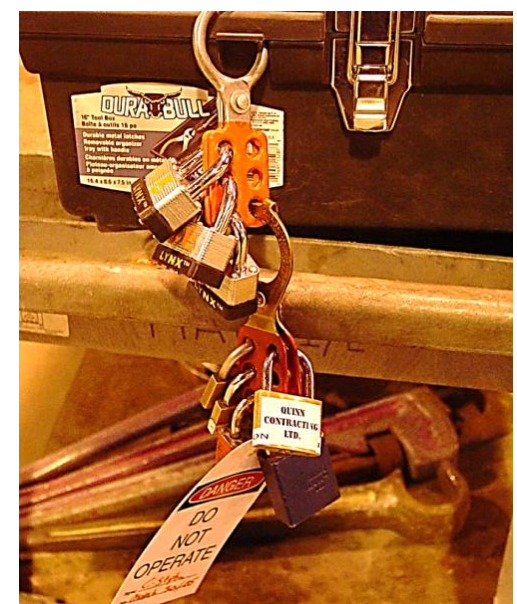
- ‘Expert observers’, supervisors, ‘keepers of the corporate memory’ have the obligation to ensure workers know:

- a) Incidents **have** occurred because of not following that standard
- b) Demonstrate that there **have** been serious consequences

6) Cost of Non Compliance

Greater cost for non-compliance can lower risk tolerance

Effective when used selectively



Strategies for Reducing Tolerance

- Identify the cost of non compliance and increase it where necessary
- Remove barriers and increase reward for compliance

7) Confidence in the Equipment

“Ladder is twice as stable, therefore ... ”

- 1995 US Study – Drivers of vehicles with ABS and airbags have more accidents
- Parachuting – ‘Failure to deploy’ replaced with ‘late deployment’



Strategies for Reducing Tolerance

- Training on limitations of the equipment and engineering
- Stop and Think ... What will happen **if** it does fail?

8) Confidence in Protection and Rescue

Excellent PPE can result in over confidence in it's ability to protect



Strategies for Reducing Tolerance

- Understand the **limitations of protection & rescue measures**
- See them as **'last lines of defence'**, or **'not to be relied upon'** ?
- “Every job should be able to be done safely by a 65 year old with a bad back and ...” Howie Dingle

9) Potential Profit and Gain from Action

- US Highways Study – deaths on highways tracks directly with the economy
- Alberta WHS – fatalities and lost time incidents in the oil patch increase and decrease with the price of oil.



Strategies for Reducing Tolerance

- Remove rewards for risk taking
- Eliminate barriers to doing it the 'right way'

10) Role Models Accepting Risk

- When Role Models in a work group accept a certain level of risk, they influence the decisions to accept risk by other members of the group.



Strategies for Reducing Tolerance

- Identify and address the risk takers (including yourself – where are you on the ‘risk-taking’ scale?)
- Recognize ‘Erosion of Standards’ and address immediately



Move to Action

What Could Go Wrong?

How Bad Could It Be?

What can we do to prevent it?



Conversations about Risk Tolerance

- ... during Behaviour Observations
- ... during Stop and Think moments
- ... at Safety Meetings
- ... refresh the 'corporate memory'
- ... which Influencing Factor could be impacting our decisions?



"I Choose to Reduce Risk"

 Imperial Oil

Before and During a Task

Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?
- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Think

Act

- Make it safe.
- Use right procedure.

- Use right equipment.
- Reduce risk.

Stop if it can't be done safely



STOP & Think

I Choose to Reduce Risk

Identify one personal behaviour that you know presents a risk at your work site:

I am committing to take the following action to eliminate that risk from my work:

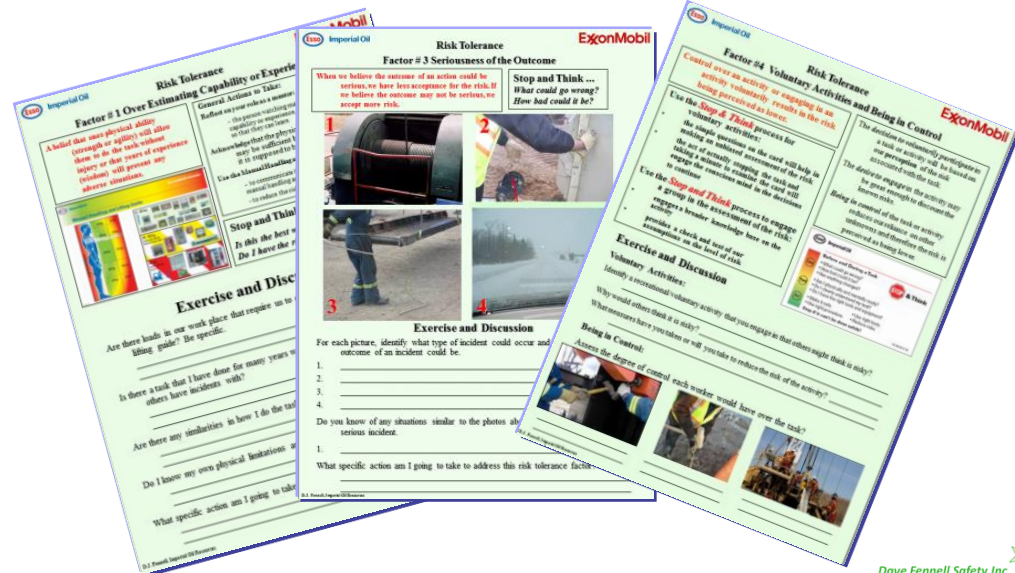
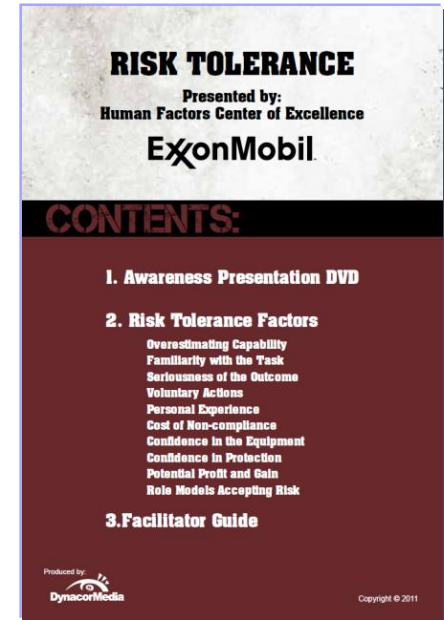
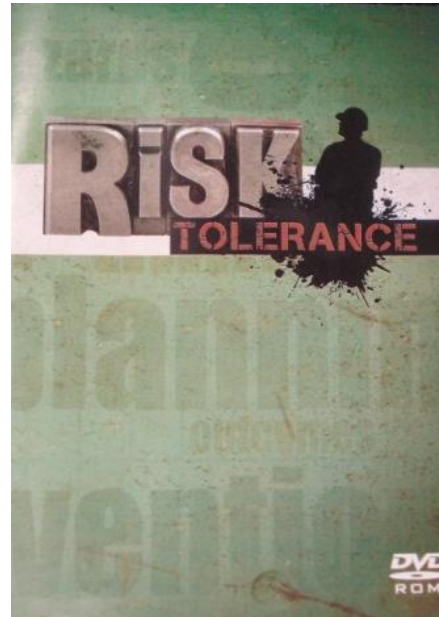
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Signature



Keep this card for a follow up discussion with your team.

Strategies and Resources

1. Risk Tolerance Awareness presentations as introduction to the topic
2. Risk Tolerance Facilitators Guide to establish an implementation strategy
3. Engage the workforce through workshops on each of the 10 Factors
4. Reinforce worker participation by using the worksheets



Resources to Get You Started


Before and during a task

Stop

Think

Act

- What could go wrong?
- How bad could it be?
- Do I clearly understand my task?
- Has anything changed?
- Am I physically and mentally ready?
- Do I have the right tools and equipment?
- Make it safe.
- Use right procedure.
- Use right tools.
- Reduce risks.




STOP & Think

Stop if it can't be done safely!



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10 Factors That Influence Risk Tolerance

- 1) Overestimating Capability and Experience**
 - Reinforce the correct way of doing the job (LPO, Stop & Think)
- 2) Familiarity with the Task**
 - What could go wrong THIS time?
 - How would I teach a new person how to do this tasks?
- 3) Seriousness of Outcome**
 - How bad could it be?
- 4) Voluntary Actions and Being in Control**
 - Integrate Stop & Think into personal and voluntary activities
- 5) Personal Experience with an Outcome**
 - Keep the 'corporate memory' active
 - Find personal stories to reduce scepticism
- 6) Cost of Non-Compliance**
 - Remove barriers to compliance
 - Increase cost of non compliance
- 7) Confidence in the Equipment**
 - Stay informed on the limitations of the equipment
 - Stop and Think ... "What would happen if it failed?"
- 8) Confidence in Protection and Rescue**
 - PPE is a last line of defence and has limitations
- 9) Potential Profit & Gain from Actions**
 - Remove rewards for risk taking
 - Eliminate barriers to doing the tasks the 'right way'
- 10) Role Models Accepting Risk**
 - Address risk takers immediately
 - Recognize "Erosion of Standard" address it immediately
 - Calibrate risk tolerance at every Stop and Think moment

Stop


Think

Act

Before and during a task

- What could go wrong?
- How bad could it be?
- Do I clearly understand my task?
- Has anything changed?
- Am I physically and mentally ready?
- Do I have the right tools and equipment?
- Make it safe.
- Use right procedure.
- Use right tools.
- Reduce risks.

Stop if it can't be done safely!



STOP & Think



***We can create a safety culture that
lowers Risk Tolerance***

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